THE ROLE OF COMPUTER TECHNOLOGY ON PRINCIPALS' ADMINISTRATION IN SECONDARY SCHOOLS IN HOMA-BAY DISTRICT, KENYA

By

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DECLARATION

This research project is my original work and has not been presented for any degree in any other University.

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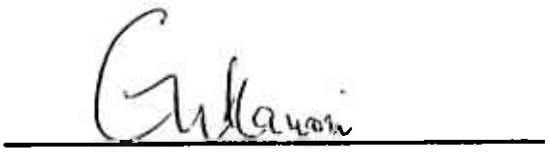
This Research project has been presented for examination with my approval as University Supervisor.



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DEDICATION

I dedicate this research to my loving mother Pauline Okal and my beloved wife Teresa Auma Obuoda for their untiring effort and inspiration to actualize and excel in my studies. Humbly, have they seen me through this study with understanding, encouragement and unselfish support. To my children, Quinter, Leah, Alfred, Jennifer, and Christine. May this inspire you to focus onto the highest academic achievement.

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ABSRACT

The study was an attempt to establish the role of computer technology on principals' administration in secondary schools in Homa-Bay District. The study set out to determine the extent the principals use computer technology in their administrative tasks. Secondly, the study determined the tasks that secondary school principals do with the aid of computer technology. Thirdly, the study determined the computer software that the secondary school principals use in administration of their schools. Fourthly, the study sought to establish the extent to which principals' gender and number of years as principal have any effect on how principals perceive the use of computer technology on school administration. Finally, the study aimed at finding out the level of awareness on the use of computer as a suitable tool for administration purposes.

The researcher explored the role of computer technology on principal's administration in secondary schools through quantitative and qualitative methods. The information was gathered through the use of questionnaire, interview schedule, and a checklist.

The findings of the study indicated that many secondary school do not have computers hence many principals do not access computer in their offices. It also revealed those schools with computers have kept them in store for there was no electricity power supply to run them.

Further revelation was that majority of principals had little computer literacy and were rarely using a computer in their school administration.

The recommendations made were that: All schools especially administrative offices are equipped with computers. The government should facilitate rural electrification to target the secondary schools to enable introduction of the technology and implementation be achieved. Teacher Training Institutions should use the findings to evaluate how teacher trainees could be prepared to be future computer literate school administrators. Ministry of Education could use the findings to develop a policy guideline on the use of computer in school management. Lastly, Principals were to be provided with professional opportunities in areas of computer technology through regular courses, workshops and seminars to sharpen their knowledge and skills on computer technology.

The suggestions for further research were that:

A study on role of computer technology on general school administration including other administrative offices such as accounts office, stores and relevant others should be done. A study on computer installation expenditures and its usage demand needs to be done. And a similar research should be carried out in other rural areas to enable comparison of the facts.

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LIST OF ABBREVIATIONS

BOG	Board of Governors
CAI	Computer Assisted Instruction
CBI	Computer Based Instruction
CBL	Computer Based Learning
CAS	Computer Attitude Scale
CFSK	Computer for Schools in Kenya
CT	Computer Technology
DC	District Commissioner
DEO	District Education Officer
ICT	Information Computer Technology
IT	Information Technology
KIE	Kenya Institute of Education
MIS	Management Information Systems
MoE	Ministry of Education
MoST	Ministry of Science and Technology
PTA	Parents Teachers' Association
SPSS	Statistical Package for Social Sciences
TSC	Teachers Service Commission
VDU	Visual Display Unit

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Information is power. Communication as an exchange of information and transmission of meaning plays important role in educational administration. Such roles as controlling the behavior of the personnel, motivating the staff, providing release of emotional expression of feelings and fulfillment of social needs for students and staff, and facilitates decision making (Okumbe, 1998). The secondary school principals' administrative tasks have become complex due to emerging challenges resulting from fast changing technology. The secondary school principals bear responsibility of managing the various administrative tasks including curriculum and instruction, the staff personnel, finances, school plant, and community-relation (Okumbe, 2001). These tasks pose challenges to school principals in their struggle to plan carefully on how to make use of both human and physical resources available in order to achieve the institution's goals.

To be able to administer these resources effectively, the school principals embrace the use of computer technology to enhance their job requirement. Like in the business community, the principal can apply the technology in the administrative tasks as record keeping, general ledgers, inventory control, tests' information, and for general communication (Fruehling, Weaver, Lyons and Bissonnette, 1997). Pressing needs to control records or finances motivates the school principals to computerize. This is because the financial

success relies closely on keeping track of all activities that occur in school and its environment. All these demand that school principals use computer technology as a basic tool for their organizational management. Computers have been used successfully in business to replace telephone operators, to control call routing and switching, and to manage telephone routine problems (Mejia, Balkin and Cardy, 2005). School principals can also use computers to modify their communication system in school to ease their administrative tasks.

The principals will be able to use "electronic mail" system and send computer generated data over telephone lines. The computer communication is faster than telephone conversations. A centralized storage system enables users to access information stored electronically as softcopies on their computers rather than hard copies (Fruehling, et al, 1997). Through computers principals can send more complex messages in the form of computer generated data transmission in seconds. The principals can also use computer for transferring information within the departments: This is done through inter office memoranda being sent by computer from one departmental office to the other. Computer assisted communication is seen as significant application especially in business and industry. Hence should be seen to be functioning in school administration business too.

On the job training, principals can use computer technology to demystify the complexity of the work place and the sophistication of office and plant machineries. This can be done by retraining the experienced staff and training

the new employees. Computers hence are important tools for training. Principals should be able to use the technology for simulations, tutorials, and problem – solving programmes in schools.

The explosion in the use of and availability of information and communication technology (ICT) has been witnessed in many secondary schools in urban centers in the country. The ICT includes equipment such as digital cameras, televisions, video cassette recorders and computers. These equipment can be used by teachers to support their work (Guerand, 2001). The advancement of the technology especially the television, film and recently the internet has made students more informed about the happenings within the environment and other parts of the world. The secondary schools principals therefore, have to deal with a well if not more informed students. To cope with increased demand of their job, the principals rely on the use of technology. The computer is one such vital technology which can greatly enhance and improve principals' work.

A computer is an electronic device, controlled by commands stored in its internal memory, which can accept and store data, perform arithmetic and logical functions, and output information without the need for human intervention (Simonson and Thomson, 1990). The computer consists of hardware and software. The hardware consists of tangible or physical components such as keyboard, visual display unit (VDU) and monitor (screen), and the mouse. Other pieces of hardware attached to a computer as peripheral devices are printers, disk drives and scanners. Software are

programmes that instruct a computer to process data and how the programs are to be used (Dougherty, 2000).

Professor George Saitoti, the then Education Minister challenged school heads to embrace computer technology since the technology is increasingly being introduced globally in schools in order to effect new changes in education. Principals of secondary schools being implementers of policy and being decision makers must prepare for information and communication technology of the 21st century (Aduda, 2003). Schools are increasingly being influenced by the influx of computers. In view of this influence of computer technology, the secondary school principals' quest for the use of computer technology becomes relevant and important to the management of education programmes in secondary schools (Bennet, 1996).

Secondary school principals are challenged now and then in different educational fora, at head teachers meetings, workshop and seminars they attend to accept and utilize computer technology. Since computer technology is increasingly being introduced globally in the schools to bring new changes to education system (Aduda, 2003). In the current Kenya Government development plan (2002 – 2008), it is stated that Kenya plans to make 2500 primary and secondary schools ICT ready annually. In addition the government also intends to initiate an in-service teachers' programme to train 43,000 teachers by the end of the planned period. Since principals are implementers of government decisions they need to be equipped with the right principles in the use of information technology (IT).

Computers can help principals to manage plans and allocate physical resources more effectively (Kasim and Tahir, 2000). There are computer software for school principals in the market like those dealing with pupil numbers including attendance, the school curriculum, time scheduling, examination preparation and analysis of results, teachers' record of work, school budget allocations, commitments and expenditure among many other activities in school (Simonson and Thomson, 1990). The computer for schools in Kenya (CFSK) works closely with the Ministry of Education (MoE) as well as local and international partners to make computer literacy a reality in secondary schools (CFSK, 2003).

Hawleridge (1990) states that almost all teachers and principals using computers in the developing countries never trained to do so during their initial training and only had a brief in-service course relating to computers. Literature on computer technology in schools is based on computer for teaching and learning instructions. These include, computer assisted instruction, (CAI) computer based instruction, (CBI) computer based learning, (CBL) among others (Simonson and Thomson, 1990). Little has been done on the role of computer technology on principals' school administration and on the usage of computers to improve effectiveness of secondary school principal's administrative tasks. It is against this background that the researcher intends to examine role of computer technology on secondary schools principals' administration in Homa-Bay district and the technology's impact on the principals' job effectiveness.

Homa-Bay district is chosen for the research because it is in the rural area and can represent other rural areas in the country in relation to computer use. The computer technology can help principals to coordinate and control the activities of their schools and also aids them to make better informed administrative decisions. The computer technology provides principals with high quality, timely, relevant and relatively complete information they may require. The computer technology reduces the need for tall administrative hierarchy (Okumbe, 1998). There is need to investigate the role of computer technology on secondary school principal's administration in Homa-Bay District.

1.2 Statement of the problem

Computers today are considered as a fundamental factor of job performance in diverse fields as in education management, banking, engineering, and medicine. The use of computers in schools has direct impact on the way principals perform their jobs (Schemeister, 2000). Secondary school principals' job has turned out to be demanding hence the ability to use computer technology becomes a necessity (CFSK, 2003). In the Ministry of Education Strategic Plan (2006-2011), the government in its objective fourteen, intends to integrate ICT in Education. To achieve this objective the Ministry will employ strategies such as: improving ICT infrastructure in schools, equipping education institutions with ICT equipment, and to develop the capacities of education managers among other strategies. In view of the above government's intentions, principals being managers should hold positive opinion on the need to embrace computer technology in their

organizational management. Varied computer software gives principals of secondary schools a wide range of options on helping them to perform different administrative tasks on a daily basis. Several secondary schools in Homa-Bay District in Kenya acquired computers through the initiatives of computer for schools in Kenya (CFSK) and through personal donations of able stakeholders.

Some schools have also acquired the computers through the Parents Teachers Association (PTA) and Board of Governors (BOG) initiatives. Available research shows that the secondary school principals must understand and make use of technology available (Bennet, 1996). Little has been done on the role of computer technology on principals' administration in secondary schools, particularly in the rural areas. Hence a research on the role of computer technology on principals' administration in Homa-Bay District is wanting.

1.3 Purpose of the study

The purpose of the study was to investigate the role of computer technology on principal's administration in secondary schools in Homa-Bay District.

1.4 Objectives of the study

The objectives of the study were:

i. To determine the extent the principals use the computer technology in their administrative tasks.

ii. To determine the tasks that secondary school principals do with the aid of Computer Technology.

iii. To determine computer software that the secondary schools principals use in administration of their schools.

iv. To establish if principals gender and number of years as principal have any effect on how principals perceive the use of computer technology on school administration.

v. To find out the level of awareness on the use of computer as a suitable tool for administration purposes.

1.5 Research questions

The study was guided by the following research questions:

i. To what extent have principals adopted the use of computer in school administration?

ii. For which tasks and responsibilities do secondary school principals frequently use computer technology?

iii. Which computer software do secondary school principals use in school administration?

iv. Does gender and number of years as principal have any effect on how principals perceive the use of computer technology on school administration?

v. To what extent do secondary school principals perceive that computer technology improves their effectiveness and efficiency as principals?

1.6 Significance of the study

The study was to help generate knowledge regarding the role of computer technology in both public and private secondary schools in Homa-Bay District in relation to the principals' administrative and managerial duties. The Kenya Institute of Education (KIE) and Universities may use the findings of this study to develop and entrench an IT curriculum in colleges that train secondary school teachers to ensure the potential principals have computer literacy as early as their training times. The Ministry of Education (MOE) can use the findings of the study to develop a policy on the use of computer in school management. The Board of Governors (BOG) and Parents Teachers Association (PTA) being the decision makers and managers of secondary schools will be able to realize the value of using computer technology in school administration hence see the need to equip schools with more computers and other related ICT equipment for both instruction and administrative tasks in schools. The Teachers Service Commission (TSC) may find the findings useful in hiring computer literate teachers for administrative posts.

1.7 Limitations of the study

The limitations of the study were:-

Access to schools for interviews and distribution of questionnaires in Homa-Bay District was a problem since the district had very poor roads and poor communication network. Since many respondents (principals) were over committed with other school activities, they did not find enough time to fill in

questionnaires in time. This caused delayance in research questionnaire returns.

1.8 Delimitation of the study

Delimitation is a process of reducing the study population and areas to be surveyed to manageable size (Mugenda and Mugenda, 2003). This study was restricted to 9 girls' boarding secondary school principals, 32 mixed secondary school principals, and 4 boys' boarding secondary school principals in Homa-Bay District. Homa-Bay District was deliberately chosen due to its poor infrastructural set up and it being in the rural area. In addition, some schools in Homa-Bay District did not have electric power supply. All secondary schools were expected to have standardized administrative procedures as indicated in the Ministry of Education (MoE) code of management.

1.9 Basic assumptions

All secondary schools in Homa-Bay District had computers and were expected to have standardized administrative procedures as indicated in the Ministry of Education code of management. Secondary school principals used computers in their management and administrative functions.

1.10 Organization of the study

The study was organized into five chapters. Chapter one consisted of background of the study, significance of the study, limitation of the study, delimitation of the study, basic assumptions, organization of the study and definition of significant terms. Chapter two consisted of literature review. Chapter three was research methodology which included; research design,

target population, sample size and sampling procedure, instrument validity, instrument reliability, data collection procedures, and data analysis techniques. Chapter four consisted of analyzed data and description of the findings. Chapter five consisted of the summary of the findings, conclusions, and recommendations.

1.11 Definition of significant terms

The following terms were defined in the context of the study:

Computer Technology refers to the activity of designing, constructing, and programming computers.

Computer Technology refers to the activity of designing, constructing, and programming computers.

Hardware refers to computer equipment such as monitor, keyboard, printer, disk drives, and scanners.

Information and computer technology (ICT) refers to equipment such as computers, televisions, and digital cameras that are used to support the teachers' work.

Information technology (IT) refers to the art of managing and processing information using computer technology: computer hardware, software, and accessories that are used to accomplish a task.

Internet refers to a world wide system of computer networks in which users at any one computer can, if they have permission, get information from any other computer and sometimes talk directly to the user at other computers. An

interconnected system of network that connects computers around the world via Transmission Control Protocol (TCP) and Internet Protocol (IP).

Software refers to the instructional programmes to process data and shows how programs are to be used.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides the review of the related literature to provide a frame work for answering the research questions identified in the study. The framework explored the uses of computers by secondary school principals. The literature review was based on use of the computer technology in the following areas:- leadership, training and standards, growth, use of technology, basic competencies, technology in management, decision making, vision for leadership, planning, professional development.

2.2 Leadership and Computer Literacy

The secondary school principals' job is diversified and classified as administrative and managerial. High expectations are put on schools and the leaders by the stakeholders and by the complexity of the schooling. Serving as a principal is a demanding and stressful duty (Hausman, Cow and Sperry, 2000). The principals are expected to do many tasks as they carry out their daily job responsibilities: they are to be educators, curriculum experts, decision makers as well as public relations officers. The current principals need to be versed in many leadership theories and educational duties, as well as be proficient in the use of computer technology to aid their effectiveness and efficiency in performing their administrative tasks (Getty, 1994).

According to Bennet (1996) the increasing influence by the influx of new technology into the society requires that principals as managers and administrators embrace the introduction of the new technology. They should cope up with the technology's demand on their performances – in order to shape the future of education reform sector. The principals are among those elected to take up leadership roles in education reform, a measure that may lead to more effective use of computer technology. These roles include: - getting things done through people (Okumbe, 1998). Working through people involves communication, team building, and motivational skills (Krug, 1993). Goldman (1998) notes that in a learning environment, leadership style depicts everything about the leaders deeply held educational beliefs which are mirrored in the school culture. Hoffman (1996) states that leadership is a pivoted point of change in an organization. Hausman, et al (2000) underscore the fact that principals must have clean understanding of themselves to be effective leaders.

An ideal principal is one who understands the content of work, understands himself or herself, and focuses on what is best for their students. The concept that principals are educational leaders is not new; however, the idea that computer technology aids the principals in their leadership role is new. According to Sagar (1999) the computer shapes the form and context of the principal's work. Those principals using computer as a tool for better communication become more involved in the complex worlds of educational leadership through dialogue with other colleague principals and community leaders in general. Secondary school principals play an important role in the

field of education because principals are expected to take strong leadership role in their schools. Schmeltzer (2002) states that the faster way to effect change in school is through strong leadership. Leaders with vision of what is possible establish reasonable expectations for themselves and their staff. This becomes true when principals incorporate technology in their vision of strong leadership.

Administrators should understand how technology can improve instructional practices and help them develop strategies which help them in teaching staff and non teaching staff management. Therefore, administrators have to understand how technology can be successfully implemented in their schools and reasonable expectations set for its use. Much of the literature reviewed for the study stress the importance of principals as educational leaders. Leadership focuses on two concepts relating to technology; principals need more clear vision of role of technology in education process and the need to plan for all phases in technology in educational leadership.

2.3 Training and standards in the use of computer technology

Training in the use of technology leads to effective usage of technology. However, very few principals have had earlier training to computer technology. Ritchie (1996) in his study, gives a reason for the reluctance of school administrators to embrace the benefits of educational technologies is that most received their education at a time when computers were not yet incorporated into the educational fields and they may have limited experience with technologies. The lack of access to computers and computer training are

major factors that determine attitudes of school principals towards the use of computers (Hope, Kelly, and Guydan 2000). For effective use of computer technology, the administrators should have proper training. Porter (1993) said that the introduction of administrative technology needs user participation in its planning and implementation. Hence sufficient time and training must be given to administrators for successful implementation of computer technology. Odera (2002) noted that though teachers take courses in leadership, management and challenges of special education at college level, non required administrators to be technologically literate and competent.

Placing computers in school is quite easy but putting them into functional use becomes difficult. Ensuring that these tools are managed properly and actually help in the management of other facilities is a new concept in schools. Telem (1991) suggested that if administrators are to perform the task of technology must become an integral part of the curriculum of the Universities and other Institutions that prepare administrators. Ritchie (1996) stated that administrators with limited technology experience often need support to deal with new technologies. Hands on practice, a low risk environment, individualized instruction or small group projects and instruction based on learning style should be offered whenever possible. Charp (1989) observed that, if broad use of technology in teaching and learning is expected to occur, programmes for administrators must be included to enhance their awareness of technological literacy and their competency in planning for technology utilization.

2.4 Growth of computers in schools

Makau (1990) traces the use of computers in Kenya to the 1980's. The computers were mainly used for instruction. Only few rich private schools and public schools owned computers. Some of these schools were beneficiaries of the computer in the Computer in Education of the Aga Khan (CEAK). Starehe Boys School introduced awareness in computers course in 1980. The government motto of the 21st century is to disseminate IT to all schools. Through the initiative by the Computer for Schools in Kenya (CFSK), many schools have received computers.

According to Ogolla (1999) the computers initiative was left to individual secondary schools to venture in. The main purpose for introducing computer technology in secondary schools was to develop student skills in the use of computers and further training. Little was said on the computer for administrative purposes. There is need, therefore, to bring up the idea to the educational officials and teachers.

2.5 Use of technology

Dougherty (2000) defines computer literacy by its uses. This includes word processing, data base, spreadsheet, presentation programme, online services access, e-mail, trouble shooting (the most common computer problem), uses, and evaluation of software. Several surveys addressed how principals used the above named areas in their day to day operations.

According to Porter (1993) three sets of technology applications are of importance to administrators. These are: the computer based communication,

management information system (MIS), access to management and word processing, spreadsheet and desktop publishing.

Hope and Guydan (2000) state that, technology has influenced administrative process necessary for schools to function. Such processes are: budgeting, information storage, retrieval, reporting, and communicating with stakeholders more efficiently. Computer technology is used to word-process documents, manipulate numbers in a database and retrieve information from other computers. It is also applied to problem solving and other productive situations like data collection, organization, analysis, and use of data for decision making. Using program for efficient data collection, communication with students, teachers, parents and community and education officials. Lastly, using programme to facilitate scheduling.

2.6 Basic competencies in computer usage

The move towards technological standards for school administrators is still at infancy stage in Kenya. However, Mc Lester (2001) acknowledges the fact that the effort to have technology standards for administrator is increasing. The three indicators suggested by Carter (1997) to determine computer usage by principals are: computer experience, computer training, and availability of the resource such as computer hardware and software. The school principals require computer technology for the following reasons: to be able to access data and use it for accountability and decision making process. Access educational information on the web and to model the practice of using computer for the purposes of teaching and learning.

Dibee (1998) noted that one reason that some administrators may not use computer technology was lack of access to computer hardware and software. The availability of computers may make principals more comfortable with technology; Never the less, the availability of the technology requires that, principals must possess skills and knowledge appropriate for their responsibities. Sager (1999) found that school principals need to have computer technology for a variety of questions. Such reasons as; Principals need to know how to access data and use it for accountability and decision making. Principals must be able to access educational information on the web. And principals must model the practice of using computer for purposes of teaching and learning.

Couts (1996), survey investigated whether or not principals were computer-phobic. One thousand principals completed Computer Attitude Scale (CAS). The CAS measured computer attitudes basing on the responses to 40 items. From the 484 respondents, such a data was collected: 35% of the respondents used computer technology for fewer than two applications a week. The most common uses included Word Processing (75%) and E-Mail (43.4%). Among these principals who did not use the computer, strong correlations existed among the variables on non-use, age, and number of years of experience. A strong correlation was also found to exist between computer attitude and computer availability.

The results show the importance of principals gaining confidence in using computers. Basic competencies in the area of technology were stressed to increase the use of applications, access to computers and training available.

2.7 Technology in management

Principals play dual roles of administrator and manager. Principals' role as a manager is aided by the use of computer technology for effective school administration. Okumbe (1998) defines the term management as the process of designing, developing and effecting organizational objectives and resources in order to achieve pre-determined organizational goals. Management is an integrated process involving decision making, conditions of uncertainty, communicating imperfect information in multiple channels and endless rounds of planning, acting, and evaluating Porter (1993). He further says that increased efficiency in the work and organization function come from electronic communications and ready access to (MIS) data and desktop software for carrying out a task. The MIS improves the management skills of the principals.

According to Hoy and Miskel (1987) the effect of MIS on education administration is an area in which theory development and research efforts yields highly tangible results for better understanding of organization and their administrators. MIS is formalized computer information system that integrates data from various sources to provide information necessary for management decision making (Hicks 1990). School's management system is installed to

provide support for the principals and other employees in their daily routines and improve their work performances (Vitchoff, Spuck, and Bozeman, 1989).

The school management system has enabled principals to use computer to perform such task as required for the management of an organization. For administrative tasks, the following soft wares are prudent: Word processing and communication, data based management and spread sheet system. Computer technology enables principals to manage and track down students' progress much easily. Data based system enables keeping of school attendance records, generate grade reports, and maintain permanent student records. From the literature reviewed, it is evident that for school management to be effective, schools must allow access to technology for administrators. Ritchie (1996) gives the reasons for lack of technology in schools as: Inadequate technical support, low quality of and access to computers, lack of funds, and personnel to maintain equipment. None established broad participatory clientele to establish a technology is yet another reason.

Most of the literature reviewed focused on the principal as the manager of an organization. The review dealt with the role of technology can play in management of schools on daily completion of tasks by the principals.

2.8 Decision-making and the role of computer

One of the major roles of a school principal is decision - making. Computer technology can aid decision making process for principals as it helps in effective communication with teachers, students, and other stakeholders. According to Hausman (2000) technology aids the decision making process. It

allows inclusion of new groups of stakeholders in decision making process. This necessitates participative leaders with well developed interpersonal skills. The only bottleneck for administrators not using technology in decision making process is their lack of expertise, time to plan, and implement a system which allows use of technology in decision making (Crouse, 1997).

Adequate time and training should be offered to administrators to successfully implement technology for organizational management. According to Yee (1998) educational leaders (principals) must continue to improve their technological skills for personal improvement. He believed that an important leadership competency on technology is the desire to continue to learn with staff members, students, and community members. It is of importance for student, and staff members to see principals working comfortably with technology as a model for their aspirations to learning the same.

2.9 Vision for leadership

The entire literature that discusses the idea of leadership shares one common idea. That is, all effective leaders have a strong vision about where they want their organization to go. The vision of the principals for the organization must take into account the direction in which the principal wants the school to go. It must allow for an understanding of the educational process and its impact in the school community. This is made clear by the idea that there is need for the principal to understand the nature of the educational processes and their impact on teachers and students, (Hausman, 2000). With a clear understanding of the educational process a principal's vision can incorporate the many uses

of technology. Bennet (1996) stated that as instructional leader principal must act on his own vision of technology in education.

Schmeltzer (2001) further noted that technology can help administrators deal with some of the challenges they face but only if they have the vision and know-how to harness it and make it part of the fabric that support the teaching and learning in schools. By using and acting on their of technology and using it to be more effective, school principals can become positive role models in the use of technology. The first and most difficult step in this process is articulating one's vision in building a technology culture (Ritchie, 1996). Once this vision is articulated, principals must become models of technology use.

Rockman and Sloan (1993) noted that in a rapidly changing communication and information age, it is essential that principals as administrative and educational leaders, become role models as technology users. If principals maintain a strong vision towards the use of technology in their schools and model this use, they can have technology be a 'revolutionary force' that instigate and supports change by administrators at the school level (Goldman, 1998).

2.10 Planning the integration of computer technology in secondary schools

The principals need to plan for the integration of technology is a prevalent idea. The literature reviewed detailed concept in a continuum of understanding the effect of the technology to team building and mentoring. Schemeltzer (2000) describes specific ways the principals can plan for and incorporate technology into their schools as instructional leaders. Skills such as word

processing and other daily use applications are important as well as broader set of experiences. The principals ought to understand how technology can improve instructional practices in order to develop strategies to help teachers use technology in their classrooms. The principals also front to making team-building and monitoring skills to be able to create a functioning system of ongoing support for the entire educational community on the usage of computer technology.

The principals have increased responsibility to influence technology in their schools. To do this, they must understand their necessity and plan for their availability. Schoeny, Heaton and Washington (1999) states that school administrators should constantly plan for and implement uses of technology. Mclester (2001) notes that technology is no longer a luxury instead, a necessity. The principals have therefore, to plan the best way to integrate and use the technology available. Hoffman (1996) states that principals have to support uses of technology by developing technology user plan. The approach being an action rather than a specific set of practices (Krug, 1993).

The principals as educational leaders must develop an action plan that incorporates their visions based on the use of computer technology. Such visions-as a clear vision on the role the technology plays in education process and the vision on the need to plan for all phases the technology has in educational leadership.

2.11 Professional development

In order for principals to implement technology into their roles as organizational leaders and managers, they must plan for the use of technology. This plan must not only look at the here and now but also the future. One component of this plan must be in the area of professional development. Okumbe (2001) defines development as the process of providing senior teachers and managerial staff with conceptual skills for performing general duties.

Beckner (1990) concluded that a critical component of principals' professional development is familiarity with technology for both instructional and administrative usage. Beaver (1991) surveyed school administrators and of the respondents, 70% said that computers were very important to the success of their jobs. This percentage compares to 73% of the same respondents who indicated having little or no technological competencies and 77% who reported that had not participated in technology training. This data led Beaver to conclude that if administrators are expected to provide the visions and understanding needed to guide the development of instructional computing programmes, they must be encouraged to increase their computer competence. Further, administrators have to develop the experiential base they will need to guide their instructional computing programmes. One part of that foundation includes the hands-on experiences that a course on administrative uses of computers can provide. Finally, administrators need to develop the understanding necessary to guide their instructional programmes and to have the hands-on experience that training on administrative uses can provide.

For those principals already trained in other areas of leadership, these hands-on technology experiences can come in the form of professional development. Hope, Kelly and Kinard (1997) concluded that the technology professional development needs of school administrators (principals) have received less attention and it appears as though school administrators (principals) are also neglected in the technology standards movement. Dougherty (200) stated that principals need more in the way of professional development in technology so they can model the correct use of technology. This is the best way to increase the use of technology by staff members because they then see a model for the correct use of technology.

Summary

The Literature reviewed included information on the uses of computers by Secondary school Principals. It related the technology in the areas as leadership and computer literacy, training and standards in the use of computer technology, growth of computer in schools, uses of technology, basic competencies and the role of computer, vision for leadership, and planning the integration of computer in secondary schools.

2.12 Theoretical framework

One of the school management approaches is the systems approach. Krug (1993) defines systems approach as a set of elements or parts which pose some degree of dependence or identity at the same time form an integral part of larger whole. Following the systems approach theory, the researcher considers the school as a 'whole'. The principal's tasks form the sub-system in the school. The computer is seen as an aid to the principals' administrative roles.

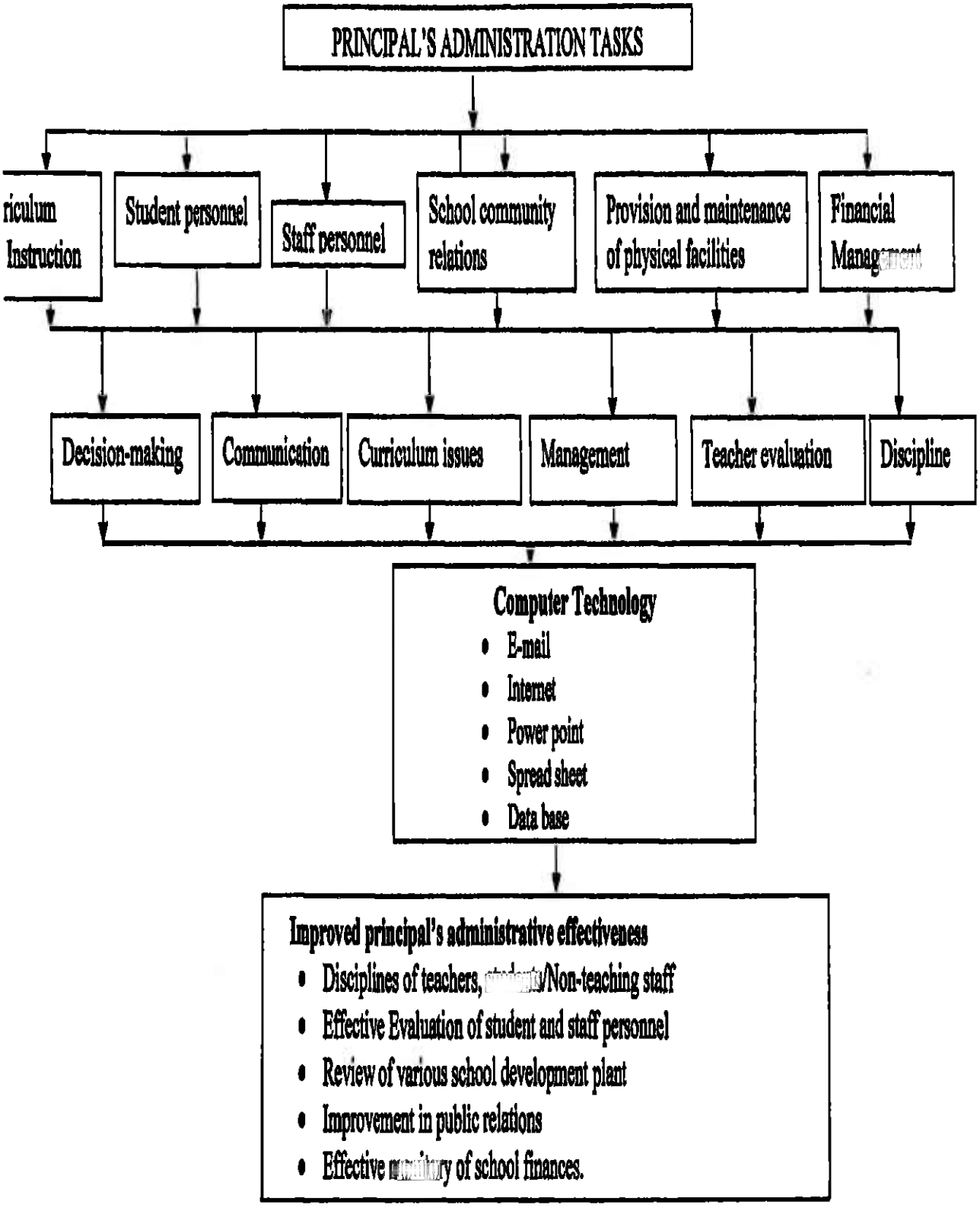
In this study the principals' tasks include curriculum and instruction, student and staff personnel, school community relations, provision and maintenance of physical facilities, and financial management. But with effective use of computer technology such tasks may improve the principals' ability in: decision making, effective communication, curriculum issues, management, and evaluation of both staff and student personnel. Hence, the systems theory.

2.13 Conceptual framework of the study

Figure 1 shows five tasks performed by the principals in a school setting. The principal's responsibility is to ensure smooth running of the school and aims at achieving school objectives. The figure also shows how computer technology can enhance the principals' effectiveness in discharging his/her instructional and administrative duties thus ensuring the primary objective of any school: teaching and learning is performed successfully. Figure 1 shows the relationship between computer technology and principal's administrative tasks.

Figure 1: Conceptual framework

Relationship between computer technology and secondary school principal's administration



Source: Researcher

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology for this study is discussed under: research design, target population, sample size and sampling procedures, research instrument, instrument validity, instrument reliability, data collection and data analysis respectively.

3.2 Research design

The design used in this study was a survey. Survey research is a study in which data is collected from the members of a sample for purposes of estimating one or more population parameter (Jogger, 1983). The survey design was found suitable because it was characterized by a systematic collection of data from members of a given population, in this case, the principals through questionnaires and interviews.

3.3 Target population

Borg and Gall (1989) define target population as all the number of real or hypothetical set of people, events or objects to which a researcher generalizes the results of the research study. The target population in this study consisted of principals of 9 girls boarding secondary schools, 32 mixed secondary school, and 4 boys boarding secondary schools. Therefore, population for this study consisted of 45 principals of secondary schools in Homa-Bay District.

3.4 Sample size and sampling technique

Frankel and Wallen (2003) notes that a sample is any group on which information is obtained. While Borg and Gall (1989) define a sample as the representative of a population from which the sample has been drawn from those variable that are relevant to the research being conducted. This section describes the procedure which was used in sampling and gives the sample size for the secondary school principals. The research focused on 50 principals of secondary schools in Homa- Bay District, because 5 principals participated in pilot study. Purposive sampling technique was used to obtain 45 principals of secondary schools in Homa-Bay Districts. The principals had the required information with respect to the objectives of the study. Appendix E shows the list of secondary schools in Homa-Bay District.

3.5 Research instruments

The researcher used questionnaire and interview schedule as the research instruments. The questionnaire was divided into three parts. The first part elicited demographic information about principals: such information as gender, age, number of years as principal, academic and professional qualification, category of schools and size of school. Part two of the questionnaire found out the principals' usage of computers, extent of access to computers, use of software such as word processing, spreadsheet and time spent on computer daily. Part three elicited information on the kind of the administrative functions, in which the principals use different software. The interview schedule was used by the researcher to interview the principals orally and enable him record their responses. Through this instrument, the respondents could seek clarification on

obscure questions and could be prompted to expound on answers which were important or revealing.

A four point scale was used; one of the following four responses was requested. 'Never', 'rarely', 'sometimes', and 'often'. Each of these categories was listed on the instrument. An interview questions sought principal's competency in computer usage, tasks they principals often use computers and their view on the role of computer in aiding their administration. An observation checklist was used to record whether the principals had computer on his desk or if it was with the secretary or at both places.

3.6 Instrument validity

Validity refers to the appropriateness, meaningfulness and usefulness of the specific inferences made from the test scores (Borg and Gall, 1989). Mugenda and Mugenda (2003) defines validity as the degree to which evidence and theory support the interpretation of test scores entailed by specific uses of test. Messick and Kramer (1989) notes that validity is an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationale support the adequacy and appropriateness of inferences and actions based on tests scores or other modes of assessment. The researcher intends to use content validity. Content validity is a measure of degree to which data collected using a particular instrument represents a specific domain of indicators or a content of particular concept (Mugenda and Mugenda, 2003).

The researcher arrived at content validity through the results of and comments of the pilot study. The instrument was pre-tested using five principals of secondary schools. The researcher attached a blank piece of paper at the end of the questionnaire on which each principal commented about the instrument. The comments obtained were scrutinized and necessary changes made in the questionnaire. The instrument was reviewed by two university lecturers who were specialists in the area of the study. After which alterations were made on items which were ambiguous and irrelevant. The principals that participated in the pilot study were excluded from the main study.

3.7 Instrument reliability

Reliability of the instrument is the degree of consistency that the instrument demonstrates (Best, 1998:276). An instrument is reliable when it can measure a variable accurately and consistently and obtain same result under the same conditions over a period of time. Scientific researchers, like Nachamias (1976) recommended split-half method to measure a reliability of a test. This method involves splitting the statements or items into two halves (odd and even numbered items). The scores of the odd numbered items were correlated with scores on the even numbered items using Pearson's Product Moment Correlation Coefficient (Best, 1998). This coefficient was taken to be estimate of reliability coefficient of the whole inventory. To adjust the correlation coefficient obtained from the two halves, use Spearman Brown Prophecy formula.

Pearson's formula

$$rxy = \frac{\sum (x - \bar{x})(y - \bar{y})}{N\, Sx\, sy}$$

Where x = Scores of a person on one variable

y = Scores of a person on the other variable

$\bar{x}$ = Mean of the x distribution

$\bar{y}$ = Mean of y distribution

Sx = Standard deviation of x scores

Sy = Standard deviation of y scores

N = The number of scores within each distribution

$\sum$ = Summation

The Spearman's formula for rank correlation.

$$r = 1 - \frac{6\sum D^2}{N(N^2 - 1)}$$

Where r = Spearman correlation index

D = Difference between ranks of corresponding values of x and y

N = Number of pairs of values (x, y) in the data

$\sum$ = Summation

All the researcher needed to know are raw scores obtained in the two measurements.

3.8 Pilot study

A pilot study was conducted to test the research instrument and to facilitate the improvement of data collection techniques, validity of the instrument, and also to allow a check of planned statistical and analysis procedures. The sample was drawn from five (5) secondary schools in Homa-Bay District. The pilot that was conducted enabled the researcher to delete some ambiguous terms and to improve on the spelling and syntaxical issues on the items.

The pilot study enabled the researcher to plan for the time needed to fill in the questionnaire and the approach for the administration of the instruments and also how to analyze the data collected. For example, the questionnaires which were sent to schools delayed to be returned. The researcher then decided on the personal administration of the questionnaire to respondents and taking with him the filled questionnaire instantly. This approach enabled the researcher to realize 100% success in questionnaire return rate.

3.9 Data collection procedures

The administration of research data collection instrument was done by the researcher both at the pilot and the main study. A research permit was obtained from Ministry of Science and Technology (M o S T). A copy of the permit was presented to the District Commissioner, District Education Officer, and Principals of secondary schools of Homa-Bay District.

The researcher then visited schools and administered the instruments personally. All the respondents were assured of confidentiality of the information they gave. Before the administration of the instruments, the researcher created rapport to

enhance acceptance and trust of the respondents. To ensure cooperation from the respondents the researcher explained the significance of the study and their participation.

3.10 Data analysis techniques

Analysis of data started with checking of gathered raw data for accuracy, usefulness, and completeness. The data was then tabulated. This was to transfer classified data from the data gathering tools to the tabular form in which they were systematically examined, that was the coding of the data. This referred to recording of the classified data into qualified terms (Lokesh, 1984). The researcher used statistical package for social sciences (SPSS). The analysis was done using descriptive statistics such as means, frequencies, distributions, percentages, and correlation for quantitative data collected from principal's questionnaires.

For qualitative data obtained from interview questions the researcher classified them into themes and analyzed the themes through narrations.

Finally, a chi-square test was run to establish the statistical significance or association between such variables as age, gender, in the use of computer technology for school administration.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Introduction

The purpose of this chapter was to present, the analysis and interpretation of the data collected from the study. The data was presented through the use of descriptive statistics, and tables.

The research design used for the study was survey. The data was collected using questionnaires, interview schedule and a checklist. After administering the research instruments to the sampled schools in Homa-Bay District, the researcher summarized the findings. Frequencies, tables, percentages, range, pie charts, and graphs have been used to present the findings of the study.

The study was guided by the following research questions:-

1. To what extent have principals adopted the use of computer in school administration?
2. For which tasks and responsibilities do secondary school principals frequently use computer technology?
3. Which computer software do secondary school principals use in school administration?
4. Does gender and number of years as principal have any effect on how principals perceive the use of computer technology on school administration?

5. To what extent do secondary school principals perceive that computer technology improves their effectiveness and efficiency as principals?

4.2 Questionnaire return rate

The questionnaires were administered to principals in the sampled schools. The total number of questionnaires given to principals was 45. All the 45 questionnaires were fully completed and returned 100% return rate was achieved. The researcher administered all the questionnaires in person.

4.3 Demographic data of the principals

Introduction

The data presented in this section was obtained from completed "Role of computer technology on principal's administration" questionnaires by secondary school principals in Homa-Bay District.

The questionnaires were responded to by 50 principals. Out of these 5 principals were used for pilot study and 45 principals for the main study. Frequencies and percentages were used to describe the demographic data of the principals who were selected for this study.

Table 4.1 represents the gender while table 4.2 represents the ages of the principals.

Table 4.1 Gender of principals

Gender	Frequency	Percent
Male	33	73.3
Female	12	26.7
Total	45	100.0

Table 4.1 revealed that of the 45 principals, the males were 73.3 % while females were 26.7 %. There were more male principals compared to female principals.

Table 4.2 Age of principals

Age group	Frequency	Percent
36 – 40 years	8	17.8
41 - 45 years	11	24.4
46 - 50 years	23	51.1
51 – 55 years	3	6.7
Total	45	100.0

The number of principals varied in the age brackets as shown in table 2 with the bulk of the principals being in the age group 51.1% and 24.4%. Only 17.8 % were below 40 years and 6.7 % were above 50 years. There was no principal in the 26 – 30 age groups. The study indicated that principals' appointment was done at advanced ages presumably due to the vast and accumulated experiences gathered in their earlier teaching careers.

Table 4.3 Academic qualification of principals

Qualifications	Frequency	Percent
BA/BSC with PGDE	1	2.2
B.Ed	42	93.3
M.Ed	2	4.4
Total	45	100.0

Table 4.3 revealed that, majority of the principals were holders of Bachelor of Education degree 93.3 %. Only 2.2 % was a holder of postgraduate Diploma in Education (PGDE) and 4.4 % had Master of Education degree. This could be explained by the fact that principals being in the rural area are not able to take advantage of opportunities for higher learning provided by varied universities which are mostly available in towns. Such opportunities as evening studies without taking leave of absence from the TSC are rare in the rural areas.

Table 4.4 Administrative experience

Experience in Years	Frequency	Percent
1 – 5 years	25	55.6
6 – 10 years	19	42.2
11 – 15 years	1	2.2
Total	45	100.0

Table 4.4 indicated that 55.6 % principals had service experience between 1 – 5 years, 42.2 % principals had served for between 6 – 10 years, and only 2.2% has stayed longer in service as a principal as in between 11 – 15 years.

The study indicated that the principals surveyed were still prime in their administrative job. The high percentage of 55.6% principals falling within 1 – 5 years of experience could be explained by either new appointments to the positions or mass transfer that was effected on various school principals in the district recently. 42.2% of principals had experience of between 6 – 10 years. This indicated that those principals had good experience.

Table 4.5 Current student enrolment

Number of Students	Frequency	Percent
Below 200	6	13.3
2001 – 360	23	51.1
361 – 540	12	26.7
541 – 720	2	4.4
721 – 1100	2	4.4
Total	45	100.0

Table 4.5 table indicated that the majority of schools in the sample 51.1 % had a student population of between 201 and 360. 26.7% schools had a population of between 361 – 540. 4.4 % had a population of between 541 – 720 similar to population between 721 – 1100 which also had 4.4 %. Only 13.3% had student population between 200. The study revealed that the 6 schools were relatively new ones.

Table 4.6 Type of school

Type	Frequency	Percent
Day	23	51.1
Boarding	12	26.7
Day and Boarding	10	22.2
Total	45	100.0

Table 4.6 indicated that majority of surveyed schools were Day schools 51.1 %, 26.7 % were boarding Schools and 22.2 % were both Boarding and Day Schools.

The study revealed that the District had few boarding schools compared to day schools. The day schools are preferred presumably due to low amount of fees payment compared to boarding schools.

4.4 Gender of students body

The gender of student body indicated that there were few boys' schools than girls' schools. Schools of mixed category were the majority.

Table 4.7 Number of students

Students	Frequency	Percent
Male	7	15.6
Female	10	22.2
Mixed	28	62.2
Total	45	100.0

Table 4.7 indicated that majority of schools surveyed were of mixed category 62.2 %. There were 15.6 % boys' schools and 22.2 % girls' schools.

4.5 Computer usage

4.5.1 Introduction

Respondents were asked if they access computer in their offices or whether they access it elsewhere in school or at a cyber café.

Table 4.8 shows access of computer in the office.

Table 4.8 Access to computer in offices

4.5.2 Access to computer in offices

Computer in Office	Frequency	Percent
No	34	75.6
Yes	11	24.4
Total	45	100.0

Table 4.8 showed that majority of principals 75.6 % do not have computers in their offices. Only 24.4% of the principals could access computers in their office or their secretary's offices.

Table 4.9 Access of computer elsewhere

4.5.3 Access of computer elsewhere

Computer elsewhere	Frequency	Percent
Cyber café	37	82.2
Computer Lab in school	1	2.2
Total	38	84.4
Missing System	7	15.6
Total	45	100.0

Table 4.9 indicated access to computer elsewhere. 82.2% of principals surveyed access computer facility at a cyber café. 15.6% may access computer either in office, cyber café or in laboratory and just 2.2 % of the principals sampled access computer in the computer laboratory.

The data showed that because majority of principals do not have computers in their offices, they resorted to using them at a cyber café, in the laboratory or elsewhere.

Table 4.10 Access of computer software

4.5.4 Access of computer software

Software	Number	Frequency	Percent Yes	Frequency	Percent No
Internet	45	7	15.6	38	84.4
E-mail	45	11	24.4	34	75.6
Word Processing	45	15	33.3	30	66.7
Spreadsheet	45	8	17.8	37	82.2
Data – base	45	10	22.2	35	77.8
Power point	45	4	8.9	41	84.4
Publishing	45	7	15.6	38	84.4

Table 4.10 showed clearly that majority of principals did not have access to all the computer software listed in their work place. Computers are clearly seen to be scarcely used by principals as a tool for administration. Safe for word processing, E-mail, Data bases, and spread sheets. These were mainly used for

the purposes of communication, curriculum issues, and financial reports surveyed. Only 5.6% and 24.4% were reported having internet access and E-mail in their schools respectively. They were mainly the large boarding schools. It was revealed that access to internet and E-mail was made possible with recently introduced low priced modem which made internet connection easier and cheaper. Word processing software was the most highly accessed software by the surveyed principals.

Table 4.11 Daily use of computer in management

Use in Management	Frequency	Percent
No	36	80.0
Yes	9	20.0
Total	45	100.0

Table 4.11 showed that 80.0% of sampled principals did not access and use computer daily in their management work. Only 20% used computer daily for administration purposes.

Table 4.12 Hours per week – using computer in administration

Hours per week	Frequency	Percent
1 – 5	2	4.4
6 - 10	2	4.4
11 – 15	1	2.2
16 – 20	7	15.6
Nil	27	60.0
Total	39	86.7
Missing System	6	13.3
Total	45	100.0

Table 4.12 indicated that majority of principals 60.0% did not spend their time or use computer for administration. Just 15.6% made use of computer for administration purposes. Since many schools did not have computer in the principals office, the principals did not bother using those available in other offices especially those in secretary's offices.

Table 4.13 Where computer was first used by principals

Place	Frequency	Percent
In school	2	4.4
At home	33	73.3
Never	8	17.8
Total	43	95.6
Missing system	2	4.4
Total	45	100.0

Table 4.13 indicated that majority of principals 73.3% first used computers at home, presumably at cyber cafes. 4.4% of the principals attested to have used computer for the first time in school. This indicated clearly the shortage of computer facility in most of the secondary schools in the district.

4.6 Overall computer literacy and keyboard skills

The sampled principals were asked to rate their overall computer literacy skills and keyboarding (typing skills). They utilized a 5 point scale: a – proficient b – above average c – average d – fair e – poor.

Table 4.14 Overall levels of computer literacy skills

vels	% Proficient	% Above average	% Average	% Fair	% Poor	% Valid cases	Mean	SD
kill	2.2	2.2	17.8	13.3	64.4	45	19.98	4.46
ng Skill	0.0	4.4	8.9	22.2	64.4	45	19.98	4.46

The mean of 19.98 for both computer literacy skills and keyboarding skills showed that principals were on the average in not using computer comfortably. The largest percentage of 64.4% of principals sampled revealed to have poor computer literacy skills and poor keyboarding skills.

By being incompetent in computer and keyboarding skills the majority of principals illustrated little knowledge on both skills and so did not use the computer in their administration and management tasks effectively.

4.7 Utilization of computer technology in completing specific work-related tasks

Respondents were asked to rate how often they used computer technology in tasks as principals. The tasks included attendance taking, discipline, and memos to staff, letters to students, data collection, finance, internet research, newsletters, and letters to parents, curriculum issues, policy issues, and teacher evaluation.

A four – point scale was used to rate the use of computer applications: never, rarely, sometimes, and often.

Table 4.15 Administrative tasks performed through computer technology

dministrative tasks	% Never	% Rarely	% sometimes	% Often	Valid Case	Mean	SD
ttendance taking	86.7	2.2	4.4	6.7	45	25	5
iscipline	86.7	6.7	4.4	2.2	45	25	5
lemos to staff	52.3	9.1	18.2	20.5	45	25.03	5
etters to students	40.9	6.8	31.8	20.5	45	25	5
ata collection	71.1	8.9	4.4	15.6	45	25	5
inance	15.6	2.2	40.0	42.6	45	25	5
ternet research	77.8	13.3	2.2	6.7	45	25	5
ewsletter	46.7	13.3	15.6	24.4	45	25	5
etters to parents	13.3	0.0	55.6	31.1	45.	25	5
urriculum issues	13.3	8.9	55.6	22.2	45	25	5
olicy issues	56.6	24.4	17.8	2.2	45	25	5
eacher evaluation	83.7	11.6	2.2	2.2	45	24.9	4.9

Table 4.15 showed that most principals used computer for curriculum issues, writing letters to parents, financial reporting, and writing letters to students in

order. Very few of the principals used computer for teacher evaluation, attendance taking, discipline, data collection, and policy issues. 82.6% of the sampled principals used computer for financial management.

4.8 Utilization of software applications for work – related tasks

The third question addressed the issues of soft ware application that principals used. The software application identified was presentation (power point), E-mail, internet, word processing, spread sheet, and data base.

4.8.1 Frequency of use of software

In completing the instrument "Role of computer technology on principals' administration in secondary schools" each principal was asked to indicate the degree to which he/she used the six software applications in their daily tasks as principal. Respondents stated the frequency of their use of software application by completing a 4 point scale ranging from (1) "Never" to (4) "Often". The items with high percentage reflected.

Table 4.16 Usage of general purpose software and operative software

oftware	% Never	% Rarely	% Sometime	% Often	Valid cases	Mean	SD
Point	79.1	14.0	2.3	4.7	45	25.0	5
	52.3	2.3	25.0	20.5	45	25.0	5
t	62.2	6.7	20.0	11.1	45	25.0	5
Processing	17.8	0	57.8	24.4	45	25.0	5
l sheet	44.4	11.1	33.3	11.1	45	24.9	4.9
ase	51.1	4.4	28.9	15.6	45	25.0	5

Table 4.16 showed that most principals used the computer most oftenly for word processing, at 57.8%, spreadsheet 33.3%, while the least used computer software was power point 79.1%, internet 62.2%, and E-mail 52.3%.

4.9 Role of computer technology on several aspects of principalship

Technology's role on certain aspects of principals' administrative job was investigated. Principals were asked to rate the extent to which computers had aided on each of the six aspects of their job tasks.

Table 4.17 Technology's role on six aspects of principalship

Roles	% High impact	% Moderate impact	% Little impact	% No impact
Leadership	8.9	22.2	20.0	48.9
Decision making	11.1	13.3	22.2	53.3
Communication	24.4	51.1	13.3	11.1
Management	6.8	29.5	25.0	38.6
Curriculum issues	13.3	55.6	22.2	8.9
Teacher evaluation	4.4	2.2	20.0	73.3

Table 4.17 indicated that the principals attested that computer had mostly aided their ability to communicate. The computer also aided principals in tackling curriculum issues, and decision making. Teacher evaluation was least affected by the use of computer at 73.3% followed by management, and leadership in order.

4.10 Principals job tasks and roles utilizing computer technology

The first research question analyzed the extent to which computer technology was used in some of the tasks and responsibilities of principals. The survey instrument contained a number of questions related to utilization of computer technology for specific purposes.

4.10.1 Utilization of computer technology in completing duties

The survey instrument asked the principals to rate the extent to which the computer assisted them in their work. The instrument listed seven tasks that principals traditionally complete in the course of their duties. The principals stated the extent to which the computer assisted them in these tasks.

Table 4.18 displays the responses to the 7 tasks listed in the instrument.

Table 4.18 Principals' utilization of computer for performance of administrative duties

Administrative duties	% Never	% Rarely	% Sometime	% Often
hering data facts	8.0	8.9	11.1	0
essing and creating professional staff elopment needs.	75.6	6.7	13.3	4.4
vide guidance and input teacher evaluation	79.5	4.5	13.6	2.3
ıning and scheduling work	73.3	4.4	11.1	11.1
ıching logical conclusions	73.3	11.1	11.1	4.4
king knowledge about policies	46.7	6.7	40.0	6.7
iting appropriately for various audiences	8.9	0	60.0	31.1

The analysis supported that technology that facilitated communication was rated higher by principals, cumulative percentage of 91.1% attested to this fact. The tasks involving writing for various audiences, seeking knowledge about policies, issues, and assessing and creating professional development need of staff in order were seen were seen as the most aided by use of computer for the principals. Very few principals used computer for planning and scheduling their work for the appropriate use of resources and for meeting short and long term set priorities: only 4.4% of the principals used computers for this purpose.

4.11 Principals' opinion on the role of computer in effective administration

Question 60 of the instrument asked the principal to declare whether or not the computer technology could make them effective principals.

Table 4.19 Computer technology makes principal an effective administrator

Response	Frequency	Percentage
Yes	45	100.0

Table 4.19 indicated clearly that all principals believed that computer usage can make them more effective administrators.

4.12 Cross tabulation of gender and knowledge of areas of computer technology

4.12.1 Introduction

Perception of the Role of Computer technology aiding principal's school administration. The last research question investigated the use of computer technology and applications in relation to secondary school principals' administration. The instrument was utilized to elicit principals' perceptions of the role of computer in their administrative work. First principals were asked whether or not specific technologies of internet access, word processing, spreadsheets, e- mail, database, presentation software, and publishing software helped to be better principals. The survey also asked whether computer as a whole made them more efficient administrators. The survey lastly gathered the knowledge of computer technology on six important principals' administrative roles.

Table 4.20 Relationship between principals' gender and knowledge of internet access

Gender of Principals	Counts and Percentages	Knowledge of Internet Access		Total
		No	Yes	
Male	Count	24	9	33
	% of Total	53.3%	20.0%	73.3%
Female	Count	7	5	12
	% of Total	15.6%	11.1%	26.7%
Total	Count	31	14	45
	% of Total	68.9%	31.1%	100.0%

Table 4.20 indicated that majority of male principals did not have knowledge on internet access and could not access internet easily compared to female principals.

Table 4.21 Relationship between principals' gender and knowledge of spreadsheet

Gender of Principals	Counts and Percentages	Knowledge of Spreadsheet		Total
		No	Yes	
Male	Count	20	13	33
	% of Total	44.4%	28.9%	73.3%
Female	Count	6	6	12
	% of Total	13.3%	13.3%	26.7%
Total	Count	26	19	45
	% of Total	57.8%	42.2 %	100.0%

Table 4.21shows few female principals 13.3% had knowledge on how to use spreadsheet. While 28.9% male principals knew how to use spreadsheet.

Table 4.22 Relationship between principals' gender and knowledge of word processing

Gender of Principals	Counts and Percentages	Knowledge of Word Processing		Total
		No	Yes	
Male	Count	4	29	33
	% of Total	8.9%	64.4%	73.3%
Female	Count	2	10	12
	% of Total	4.4%	22.2%	26.7%
Total	Count	6	39	45
	% of Total	13.3%	86.7%	100.0%

Majority of male principals knew how to use Word processing software 64.4% compared to 22.2% female principals.

Table 4.23 Relationship between principals' gender and knowledge of e-mail

Gender of Principals	Counts and Percentages	Knowledge of E-mail		Total
		No	Yes	
Male	Count	18	15	33
	% of Total	40.0%	33.3%	73.3%
Female	Count	8	4	12
	% of Total	17.8%	8.9%	26.7%
Total	Count	26	19	45
	% of Total	57.8%	42.2%	100.0%

Table 4.23 showed that male principal still led the female principal in the knowledge of E-mail usage. The percentage stood at 33.3% male and 8.9% female.

Table 4.24 Relationship between principals' gender and knowledge of database

Gender of Principals	Counts and Percentages	Knowledge of Database		Total
		No	Yes	
Male	Count	21	12	33
	% of Total	46.7%	26.7%	73.3%
Female	Count	5	7	12
	% of Total	11.1%	15.6%	26.7%
Total	Count	26	19	45
	% of Total	57.8%	42.2%	100.0%

Table 4.24 showed that the male principals had no knowledge on database, 46.7% while more female principals had knowledge on database 15.6%.

Table 4.25 Relationship between principals' gender and knowledge of publishing software

Gender of Principals	Counts and Percentages	Knowledge of Publishing Software		Total
		No	Yes	
Male	Count	22	11	33
	% of Total	48.9%	24.4%	73.3%
Female	Count	6	6	12
	% of Total	13.3%	13.3%	26.7%
Total	Count	28	17	45
	% of Total	62.2%	37.8%	100.

Table 4.25 shows that ⅓ of male principals had knowledge on publishing while half (1/2) of the principals had knowledge of publishing software 24.4% male and 13.3% female principals respectively.

NOTE: Cross tabulations of principals' gender and the knowledge of the entire six computer software revealed that:

Majority of principals have knowledge of word processing 86.7%, this confirms earlier revelation that most of the principals use computer for communication more that other administration tasks. The least used computer software being presentation software 75.6%, internet 68.9%, publishing software 62.2%, and others at 57.8% each in order.

4.13 Cross tabulations and chi-square tests for association

Chi-square tests were done to show any possible association between different variables. Several tests as: Principals' age against typing (keyboarding) skills. Gender against overall computer literacy skills. Gender and keyboarding (typing) skills, Age and literacy skills. Letters to parents and role of computer on communication. Last test was done on finance against leadership.

Table 4.26 Relationship between principals' age and typing / keyboarding skills

Age of principals	Counts and percentages	Typing/keyboarding skills				Total
		Above average	Average	Fair	Poor	
36 – 40 years	Count	1	1	3	3	8
	% of total	2.2%	2.2%	6.7%	6.7%	17.8%
41 – 45 years	Count	0	0	2	9	11
	% of total	.0%	.0%	4.4%	20.0%	24.4%
46 – 50 years	Count	1	3	4	15	23
	% of total	2.2%	6.7%	8.9%	33.3%	51.1%
51 – 55 years	Count	0	0	1	2	3
	% of total	.0%	.0%	2.2%	4.4%	6.7%
Total	Count	2	4	10	29	45
	% of total	4.4%	8.9%	22.2%	64.4%	100.0%

No principal within age bracket of 51 – 55 had any knowledge on keyboarding skill that is average or above average. Similarly, those principals within age bracket of 41 – 45 had their keyboarding skills rating below average. However, principals within age bracket of 36 - 40 and 46 – 50 years of age with above average and average keyboarding skills were just a small percentage of 13.3% shows that majority of principals who are with the age bracket of 46 – 50 years had poor keyboarding skills. This indicates that many of the principals in Homa-Bay district have poor keyboarding skills and confirms the earlier discovery that majority of principals do not use computer technology.

Table 4.27 Chi-square tests for age of principals against keyboarding skills

	Value	Df	Asymp. Sig (2-sided)
Pearson Chi-Square	6.349a	9	.705
Likelihood Ratio	7.735	9	.561
Linear-by-Linear Association	.332	1	.564
No. of Valid Cases	45		

a. 12 cells (75.0%) have expected count less than 5. The minimum expected count is .13. The Chi-square Tests showed that the computer value of 0.705 was more than p – value of 0.05., hence no significance. This meant that there was no association between age of principal and their knowledge of keyboarding skills.

Table 4.28 Relationship between principals' gender and computer literacy skills

er	Counts and	Overall Computer Literacy Skills					
	Percentages	Proficient	Above average	Average	Fair	Poor	Total
	Count	1	0	6	3	23	33
	% of Total	2.2%	.0%	13.3%	6.7%	51.1%	73.3%
le	Count	0	1	2	3	6	12
	% of Total	.0%	2.2%	4.4%	6.7%	13.3%	26.7%
	Count	1	1	8	6	29	45
	% of Total	2.2%	2.2%	178.8%	13.3%	64.4%	100.0%

Table 4.28 indicated that amongst the male principals sampled, none was proficient in computer literacy. And only one male principal was found to be proficient. Majority of the male principals had poor literacy skills 51.1%, while 13.3% translating to ½ the female principals had poor computer literacy skills.

Table 4.29 Chi-square test for gender and computer literacy skills

	Value	Df	Asymp. Sig (2-sided)
Pearson Chi-Square	5.325a	4	.256
Likelihood Ratio	5.308	4	.257
Linear-by-Linear Association	.580	1	.446
No. of Valid Cases	45		

a. 7 cells (70.0%) have expected count less than 5. The minimum expected count is 27.

Table 4.29 shows that computed chi had a P- value of 0.256 – greater than 0.05 level of significance. This indicated that there was no association between gender of principals and computer literacy skills. Any association could be due to chance or sampling error.

Table 4.30 Relationship between principals' gender and typing / keyboarding skills

Gender	Counts and Percentages	Typing/Keyboarding Skills				Total
		Above average	Average	Fair	Poor	
Male	Count	1	4	6	22	33
	% of Total	2.2%	8.9%	13.3%	48.9%	73.3%
Female	Count	1	0	4	7	12
	% of Total	2.2%	.0%	8.9%	15.6%	26.7%
Total	Count	2	4	10	29	45
	% of Total	4.4%	8.9%	22.2%	64.4%	100.0%

Table 4.30 indicated that male principal's still leads their female counterpart in having poor knowledge of Typing/Keyboarding skills. 22 male principals

against 7 female principals had poor knowledge of Typing/Keyboarding skills, a percentage of 48.9% and 15.6% respectively.

Table 4.31 Chi-square test for gender and principals keyboarding skills

	Value	Df	Asymp.Sig. (2-sided)
Pearson Chi-Square	3.01a	3	.389
Likelihood Ratio	3.905	3	.272
Linear-by-Linear Association	.058	1	.810
No. of Valid Cases	45		

a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is .53. The test showed computed chi of p-value 0.389 more than the 0.05 level of significance. This indicated that there was no significance or no association between gender of principals and key boarding skills. Any association could be due to chance or sampling error.

Table 4.32 Relationship between principals' age and computer literacy skills

of	Counts and	Overall Computer Literacy Skill					
ipals	Percentages	Proficient	Above average	Average	Fair	Poor	Total
40 years	Count	1	0	1	4	2	8
	% of Total	2.2%	.0%	2.2%	8.9%	4.4%	17.8%
45 years	Count	0	0	2	0	9	11
	% of Total	.0%	.0%	4.4%	.0%	20.0%	24.4%
50 years	Count	0	1	5	1	16	23
	% of Total	.0%	2.2%	11.1%	2.2%	35.6%	51.1%
55 years	Count	0	0	0	1	2	3
	% of Total	.0%	.0%	.0%	2.25	4.4%	6.7%
	Count	1	1	8	6	29	45
	% of Total	2.2%	2.2%	17.8%	13.3%	64.4%	100.0%

Table 4.32 indicated that a cross the ages 36 – 41 years to 55 years no principal was proficient in computer literacy skills. 16 principal falling in the age bracket of 46 – 50 years had poor knowledge in computer literacy skills. This confirms that majority of principals in the district have little knowledge of computer technology.

Table 4.33 Chi – square test for age and computer literacy skills

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.813a	12	.053
Likelihood Ratio	19.451	12	.078
Linear-by-Linear Association	1.122	1	.289
No. of Valid Cases	45		

a. 17 cells (85.0%) have expected count less than 5. The minimum expected count is .07.

The p-value of 0.53 is more than level of significance. Thus there existed no association between age of principals and computer literacy skills. This was presumed to be due to the small sample taken. The test was conducted at 95% confidence level.

Table 4.34 Relationship between letters to parents and effective communication

Letters to Parents	Counts and Percentages	Effect on Communication				Total
		High Impact	Moderate Impact	Little Impact	No Impact	
Never	Count	0	1	2	3	6
	% of Total	.0%	2.2%	4.4%	6.7%	13.3%
Sometimes	Count	2	17	4	2	25
	% of Total	4.4%	37.8%	8.9%	4.4%	55.6%
Often	Count	9	5	0	0	14
	% of Total	20.0%	11.1%	.0%	.0%	31.1%
Total	Count	11	23	5	5	45
	% of Total	24.4%	51.1%	11.1%	11.1%	100.0%

The cross tabulation in table 4.34 showed that there was high impact as 20% of principals indicated used computer oftenly to communicate with parents and 37.8% of the principals indicated used computer realized moderate impact. A total of 33 principals surveyed, a cumulative percentage of 74.5% attested to the fact that computer technology aided their communication tasks positively.

Table 4.35 Chi-square test for letters to parents and role of computer on communication

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.501a	6	.000
Likelihood Ratio	29.653	6	.000
Linear-by-Linear Association	20.259	1	.000
N of Valid cases	45		

a. 9 cells (75.0%) have expected count less than 5. The minimum expected count is .67.

The test showed p-value of Zero (0.00) less than 0.05 level of significance. This showed that use of computer in sending letters to parents is associated with communication tasks. (The p-value of 0.00 is significant).

Table 4.36 Relationship between letters to parents and curriculum issues

Letters to Parents	Counts and Percentages	Effect on Curriculum Issues				
		High Impact	Moderate Impact	Little Impact	No Impact	Total
Never	Count	0	1	2	3	6
	% of Total	.0%	2.2%	4.4%	6.7%	13.3%
Sometimes	Count	1	16	8	0	25
	% of Total	2.2%	35.6%	17.8%	.0%	55.6%
Often	Count	5	8	0	1	14
	% of Total	11.1%	17.8%	0%	2.2%	31.1%
Total	Count	6	25	10	4	45
	% of Total	13.3%	55.6%	22.2%	8.9%	100.0%

Table 4.36 indicated that majority of principals sampled used computer for communicating curriculum issues to parents. The number of principals who oftenly and sometimes used computer to communicate curriculum issues to parents and realized both high impact and moderate effect are a majority, a percentage 68.9%.

Table 4.37 Chi-square test for letters to parents and curriculum issues

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.852a	6	.000
Likelihood Ratio	27.398	6	.000
Linear-by-Linear Association	15.376	1	.000
N of Valid Cases	45		

a. 9 cells (75.0%) have expected count less than 5. The minimum expected count is .53.

The p-value of zero (0.00) is less than 0.05 level of significance. This shows that use of computer in sending letters to parents and role of computer on curriculum issues were associated. The p-value of 0.00 is significant.

Table 4.38 Relationship between financial management and leadership

Financial Management	Counts and Percentages	Effect on Leadership				Total
		High Impact	Moderate Impact	Little Impact	No Impact	
Never	Count	1	1	1	4	7
	% of Total	2.2%	2.2%	2.2%	8.9%	15.6%
Rarely	Count	0	1	0	0	1
	% of Total	.0%	2.2%	.0%	.0%	2.2%
Sometimes	Count	0	3	2	13	18
	% of Total	.0%	6.7%	4.4%	28.9%	40.0%
Often	Count	3	5	6	5	19
	% of Total	6.7%	11.1%	13.3%	11.1%	42.2%
Total	Count	4	10	9	22	45
	% of Total	8.9%	22.2%	20.0%	48.9%	100.0%

Table 4.38 showed that 22 of the surveyed principals did not realize any impact on their quest to manage finances. A total of 48.9% said they computer played no role in financial management. 22.2% of the principals confirmed that they experienced moderate impact on the role computer played on financial management.

Table 4.39 Chi-square test for finance and leadership

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.120a	9	.157
Likelihood ratio	14.142	9	.117
Linear-by-Linear Association	1.049	1	.306
N of Valid Cases	45		

a. 14 cells (87.5%) have expected count less than 5. The minimum expected count is .09.

The test revealed that p-value of 0.157, greater than 0.05 level of significance. This showed that role of computer on leadership is not associated to the use of computer in financial management. Any association could be due to a chance or sampling error.

4.143 Summary

This chapter presented the data generated by the 45 secondary school principals in Homa-Bay district who completed the questionnaires. These results showed that majority of principals did not access computer in their offices. However, all the principals agreed that computer has become a necessary tool for school administration.

The respondents were not comfortable in the use of computer in general. This reinforced the idea that the responses to software and computer applications were valid. By being incompetent in their computer literacy and keyboarding skills, the respondents illustrated that they did not use the computer in their daily tasks. Majority of the respondents stated that their keyboarding skills were poor. The fact confirms that the respondents were incompetent and were not confident in both keyboarding and literacy skills add in credibility to their responses on applications and of the uses of computer.

The principals responded that they use word processing and spreadsheet most oftenly in their daily duties as principals. Power point, Internet, and E-mail were least used in a diminishing order. Each application was seen to have little use to principals who responded to the survey instrument.

Majority of the principals surveyed saw computer as having played major role on their ability to communicate. They also believed that computer aided them in the management aspects of their administrative tasks. Teacher evaluation was the least aided by the use of computer according to the respondents. When the data was analyzed and cross tabulated the perception of the principals on the role of computer on sending letters to parents and communication was statistically significant, with a p – value of 0.00 less than 0.05. Curriculum issues in relation to letters to parents were also significant with a p – value of 0.00, less than 0.05 level of significance. However relationship between financial management and leadership was statistically insignificant with

a p-value of 0.157, greater than 0.05 level of significance. This illustrated the fact that the use of computer in leadership was not associated with the use of computer in financial management.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter consists of four sections. The first section provides a summary of the research. The second views the findings of the research. The third section presents some conclusions based on the findings. The final section provides recommendations and recommendations for further research.

5.2 Summary of findings

The purpose of this study was to determine the rose of computer technology on principals' administration in secondary schools in Homa-Bay District. In addition, the study analyzed which computer applications the principals used to perform their administrative tasks. Lastly, the study investigated the extent the principals perceived that computer technology improves their efficiency and effectiveness as principals. The responses of the principals were analyzed based on the following: Age of the respondent, Gender, Number of years as principal and size of school.

The researcher developed the "role of computer technology on principals' administration in secondary schools" questionnaire (See Appendix B) to solicit the relevant data to the research. The questionnaire was developed by reviewing relevant research in the field of computer technology and school administration. The population from which the sample was drawn was principals secondary schools in Homa-Bay District. The target population was 45 principals of secondary in Homa-Bay District.

The research instruments used for this study consisted of questionnaire for principals, Interview schedule for principals and a check list. After administering the questionnaires to the respondents response achieved was 100% successful. To determine the validity of the instrument used, the researcher had the instruments appraised by the supervisor who is an expert in the field of educational administration. A pilot study was carried out in order to determine the validity of the instruments further.

5.3 Findings

On the basic of the research questions guiding this study, the following findings were obtained: The first question which the research answered was, *to what extent have principals adopted the use of computer technology in school administration?*

It was revealed that most respondents did not access computers in their offices. Many respondents had poor knowledge of both computer literacy and keyboarding skills. These facts illustrated that the principals had not adopted the technology in school administration. Majority of the respondents indicated that accessed the technology at a cyber café. This was presumed to be mainly for browsing, and not for administrative purposes.

The second research question addressed; *the tasks and responsibilities secondary school principals frequently use the technology.* It was found that most of the respondents stated that they frequently used computer technology on their administrative roles as: communication. This involved writing to appropriate audiences such as letters to students, letters to parents, memos to staff, and writing school financial reports.

The respondents ranked the six aspects of principalship in relation to strength the technology has improved then. Communication was ranked highest and followed by, curriculum issues, and decision making. Teacher evaluation was the least improved by the computer technology. It was illustrated that many principals used computer for tasks that could be done in a short time period. Such tasks as writing memos, letters to students or parents. No school used computers for discipline programs, attendance taking programs, and teacher evaluation programs. Similarly very few schools (principals) ranked the role of computer so low for decision making. This was due to the fact that very few accessed internet as the internet services were not in any of the secondary schools surveyed. In addition, the poor knowledge of computer literacy aggravated this fact.

In Schemeltzers (2001) research, he stated that skills such as word processing and e – mail are important daily applications. He saw a truly effective leader as needing a broader understanding of technology as an education tool. The data provided by the principals effectiveness survey showed the need for principals to increase their use of technology past the basics

The third research question addressed was, which *computer software do secondary school principals use in school administration?* Many principals stated that they used word processing most often in their daily tasks as principals, spreadsheet, database, e-mail, internet, and power point was least used. However, each application was seen as useful to the respondent safe for their literacy ignorance, poor keyboarding skills and unavailability of the computers in principals' offices. The principals who used computers used the

software applications inconsistently regardless of gender, age, number of years as principal or school size.

The fifth research question addressed was *to what extent do secondary school principals perceive that computer technology improves their effectiveness and efficiency as principals.* When the principals were asked if they believed computer could make them more effective administrators, all the 45 principals responded positively. Younger principals believed that computer could make them effective administrators. (However, majority of principals with the age bracket of 45 – 50 years) had mixed reactions. This could be explained to the fact that computer in administration is a recent invention in Kenya. And most of these principals started their teaching careers without any computer knowledge. Most respondent overwhelmingly stated that computer made them more effective principals. Surprisingly, reaction seemed to be a product of using computers as a communication tool.

Word processing was ranked higher in terms of computer usage and effectiveness. It could be assumed that the principals equated effectiveness and efficiency with ability to communicate. Few principals stated to have used computers in school. This confirmed that computer technology has not been embraced as a tool for administration in secondary schools in Homa-Bay District. It was revealed that the major problem that contributed to lack of computer in most secondary schools in the district was lack of electricity to power the machines. In addition, most principals stated that they had poor computer literacy and keyboarding skills.

Principals in Homa-Bay District believed that they did not have necessary skills to use computer as a tool to improve their administrative duties. The basic technology skills are essential for administrators in a leadership role (Bozeman 1991).

5.4 Conclusions

It was clear that computer had not become a tool used by principals in secondary schools in Homa-Bay District on a daily basis. Majority of principals did not rely on computer to accomplish their administrative tasks. Most principals use computer only for communication purposes. They access computer services mainly from computer experts at a cyber cage or from their secretary's office. Since many principals are computer illiterate, they need to be trained on computer literacy and keyboarding skills to be competent and confident in using computers. It is pleasing to note that all principals believed computer technology had a positive role in their administration and managerial duties. This was a positive indicator on the way forward for educational administration as we embrace new technologies in the 21st century.

5.5 Recommendations

Specific recommendations were made on the basis of the obtained results.

1. The research found out that many schools did not have computers. Thus principals could not access the technology from their offices. It was recommended that all in schools, particularly the administrative offices be equipped with computers.
2. The research revealed poor infrastructure in the rural schools. Especially many secondary schools did not have electricity – power supply. For the

few schools which had computers, the computers were kept in store awaiting electric power installation. It was recommended that the government should step up rural electrification to target the secondary schools to enable introduction of the technology and its implementation be realized.

3. It was recommended that teacher training institutions (Universities and tertiary colleges) should use this study to evaluate how teacher trainees could be prepared to be computer literate education administrators in future. In corporation of computer technology in current administration program were recommended
4. In view of the findings, it was recommended that, the Ministry of Education should develop a policy to guide use of computer in school management to enable a standardized management procedure in all secondary schools in the country.
5. Since many principals were found to be computer illiterate, it was recommended that principals be provided with professional opportunities in areas of computer technology through regular capacity building courses, workshops, and seminars.

5.6 Suggestions for further research

Further research could be done on the following:

1. A study on role of computer technology on general school administration to include other administrative offices as, Account's office, stores, and relevant others could be done.

2. A study could be taken on the computer Installation Expenditures. In schools and its usage demands. The information could allow school management committees and stakeholders to analyze their computer spending needs.
3. A similar research could be carried out in other rural districts to compare notes. To be able to make an appropriate master plan in relation to computer usage and its productivity of its users particularly in regard to secondary school administration.

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APPENDICES

APPENDIX A

LETTER OF INTRODUCTION TO THE RESPONDENTS

University of Nairobi,
P.O Box 30197,
NAIROBI.

Dear Sir/Madam,

RE: A QUESTIONNAIRE ON ROLE OF COMPUTER TECHNOLOGY ON PRINCIPALS ADMINISTRATION IN SECONDARY SCHOOLS IN HOMA-BAY DISTRICT.

I am a post graduate student from the University of Nairobi pursuing a Master of Education degree course. I am conducting a study research entitled "Role of computer technology on principals' administration in secondary schools." The study intends to identify which applications the principals use to perform the demands of their administrative tasks. Lastly the study will examine the effectiveness of the technology on aiding the principals' school administration. The result of this study will only be used for my academic purpose and not otherwise. PLEASE, DO NOT WRITE YOUR NAME OR THE NAME OF THE SCHOOL ANYWHERE ON THE PAPER.

Thank you in advance,

Yours Faithfully,

Obuoda Gilbert Michael,

M.Ed. Student,

APPENDIX B

PRINCIPALS' QUESTIONAIRE

Introduction

The questionnaire is designed to solicit general information about the role of computer technology on secondary school principals' administrative tasks in Homa-Bay District. You are assured that your answers will be used for the purpose of the study only and identity kept confidential. Do not write your name or the name of your school anywhere on the paper. Please respond by indicating the symbol x against the correct option. Kindly respond to all items.

PART A

Demographic information

1. Indicate your gender

   a) Male [ ]

   b) Female [ ]

2. Indicate your age bracket in the most appropriate box.

   a) 26 – 30 Years [ ]

   b) 41 – 45 Years [ ]

   c) 31 – 35 Years [ ]

   d) 36 - 40 Years [ ]

   e) 46 – 50 Years [ ]

   f) 51 – 55 Years [ ]

   g) 55 Years and above [ ]

3. Indicate your highest academic qualification

   a) BA/BSC with PGDE [ ]

b) B. Ed [ ]

c) M. Ed [ ]

d) MA [ ]

e) PhD [ ]

4. How many years have you served as principal?

b) 1 – 5 Years [ ]

c) 6 – 10 Years [ ]

d) 11 – 15 Years [ ]

e) 16 – 20 Years [ ]

f) Over 20 Years [ ]

5. What is the current student enrolment in your school?

b) Below 200 [ ]

c) 201 – 360 [ ]

d) 361 – 540 [ ]

e) 541 – 720 [ ]

f) 721 – 1100 [ ]

g) Over 1100 [ ]

6. Indicate the type of your school.

a) Day [ ]

b) Boarding [ ]

c) Day and Boarding [ ]

d) Day and Private [ ]

7. Indicate the gender of students

a) Male [ ]

b) Female [ ]

PART B

Computer usage information

8. Do you access a computer in your office?

b) Yes [ ]

c) No [ ]

9. If no, where do you access computer facilities?

a) At a cyber café [ ]

b) In computer laboratory within the school [ ]

Kindly tick Yes or No for each item you easily access in your work area.

10. Internet access	Yes	[ ]	No	[ ]
11. E-mail	Yes	[ ]	No	[ ]
12. Word processing	Yes	[ ]	No	[ ]
13. Spreadsheet	Yes	[ ]	No	[ ]
14. Databases	Yes	[ ]	No	[ ]
15. Power point	Yes	[ ]	No	[ ]
16. Publishing software	Yes	[ ]	No	[ ]

17. Do you use computer daily in your management work?

Yes [ ] No [ ]

18. If yes, how many hours per week do you use computer for school administrative tasks?

a) 1 – 5 hours [ ] b) 6 – 10 hours [ ]

c) 11 – 15 hours [ ] g) 31 – 35 hours [ ]

d) 16 – 20 hours [ ] h) 36 – 40 hours [ ]

e) 21 – 25 hours [ ] i) 40 hours and above [ ]

f) 26 – 30 hours [ ]

19. a) When did you start using a computer?_____

b) Where did you first use a computer?

a) In school [ ] b) During pre-service teacher training [ ]

c) At school as a teacher [ ] d) At home [ ] e) Never [ ]

f) Else where (please specify)_____

_____

PART C

Software used, task of the principals and roles in relation to computer usage

		Never	Rarely	Sometimes	Often
20	Presentation software (power point)				
21	E-mail				
22	Internet				
23	Word processing				
24	Spreadsheet				
25	Data base				

How often do you use the following software? Please indicate with an (X) the extent to which each of these statements applies to you in the relevant columns.

How often do you use the listed computer tasks in your administrative and management tasks as a principal?

		Never	Rarely	Sometimes	Often
26	Attendance taking				
27	Discipline				
28	Memos to staff				
29	Letter to students				
30	Data collection				
31	Finance				
32	Internet research				
33	Newsletter				
34	Letter to parents				
35	Curriculum issues				
36	Policy issues				
37	Teacher evaluation				

Rate each statement using the scale below. Please put an X in the correct box.

Scale: a – proficient, b- above average, c- average, d- fair, e- poor.

38. Your overall computer literacy skills

a [ ] b [ ] c [ ] d [ ] e [ ]

39. Your typing/keyboarding skills

a [ ] b [ ] c [ ] d [ ] e [ ]

Rate the effects of computer software (including internet, access E – Mail, word processing, spreadsheets, databases and presentation software) on the following aspects of your principal ship. Put an [X] for the appropriate response.

Scale: a- high impact b- moderate impact c-little impact d- no impact.

40. Leadership	a [ ]	b [ ]	c [ ]	d[ ]
41. Decision making	a [ ]	b [ ]	c [ ]	d[ ]
42. Communication	a [ ]	b [ ]	c [ ]	d[ ]
43. Management	a [ ]	b [ ]	c [ ]	d[ ]
44. Curriculum issues	a [ ]	b [ ]	c [ ]	d[ ]
45. Teacher evaluation	a [ ]	b [ ]	c [ ]	d[ ]

Does the use of knowledge on the following areas of computer technology enable you perform better as a principal? (Please put an [X] for the appropriate response).

46. Internet access	Yes [ ]	No [ ]
47. Word processing	Yes [ ]	No [ ]
48. Spreadsheet	Yes [ ]	No [ ]
49. E-Mail	Yes [ ]	No [ ]
50. Data bases	Yes [ ]	No [ ]

		Never	Rarely	Sometimes	Often
53	Gathering data and facts from various sources about student, parents and staff members.				
54	Assessing and creating professional development needs of staff.				
55	Provide guidance and input to a teacher evaluation.				
56	Planning and scheduling one's own and other work in order to use appropriately the long and short term priority and goals are met.				
57	Reaching logical Conclusions and making high quality timely decisions given the best available information.				
58	Seeking knowledge about policies, rules laws precedents or practices.				
59	Writing appropriately for various audiences such as teachers, students and parents.				

51. Presentation soft ware (power point) Yes [ ] No [ ]

52. Publishing soft ware (creating new letters) Yes [ ] No [ ]

Please put an [X] appropriately, for the response for each of the following items using this scale.

The use of computer technology aids my work as principal in

60. In your opinion, do you believe that the use of computer can make you a more effective principal?

Yes [ ] No [ ]

Thank you for your co – operation!!

APPENDIX C

PRINCIPALS' INTERVIEW QUESTIONS

1) Are you very competent in using a computer?

2) In which other offices do you have computers?

3) For which tasks and responsibilities do you frequently use computer technology?

4) How often do you use computer in your administrative and management tasks?

5) How does computer technology impact on your school administration?

Thank you for your co – operation!!

APPENDIX D

OBSERVATION CHECKLIST

ITEMS	COMMENTS	COMMENTS	COMMENTS
	No. of Computers	In Use	Not in Use
Principal's Office			
Deputy Principal's office			
Other Offices			
Heads of Departments' Offices			
Senior Teachers Office			
Secretary's Office			
Computer Lab			

APPENDIX E

LIST OF SECONDARY SCHOOLS IN HOMA BAY DISTRICT

NO	SCHOOL
1	ACHEGO MIXED
2	ALUOR GIRLS
3	ALUOR MIXED SECONDARY
4	ANDING'O MIXED
5	ANDIWO MIXED
6	ASUMBI GIRLS HIGH
7	DISII MIXED
8	GOD BONDO MIXED
9	GOT KOJOWI
10	HOMA BAY HIGH
11	KUOYO BOYS
12	LALA SECONDARY
13	LANGI MIXED
14	LEEDS HIGH
15	LIGISA SECONDARY
16	LUDHE DONGO
17	LUORA SECONDARY
18	MAGARE
19	MAGINA GIRLS
20	MAGUTI
21	MARINDI GIRLS
22	MIRANGA GIRLS
23	MIROGI BOYS
24	MIROGI GIRLS
25	MITITI SECONDARY

NO	SCHOOL
26	NYAJANJA
27	NYALKINYI
28	NYAMANGA GIRLS
29	NYAMOGO GIRLS
30	NYANDIWA MI[illegible]D
31	ODIENYA MIXED
32	OGANDE GIRLS
33	OGANGO GIRLS
34	OGANDE MIXED
35	OKOTA MI[illegible]ED
36	OLARE MIXED
37	OMBOGO GIRLS
38	ONGETI MI[illegible]
39	ORE[illegible] BOYS
40	OBERA SECONDARY
41	RAPEDHI MIXED
42	RARAGE SECONDARY
43	RATANG'A MI[illegible]
44	ST. DOMNIC RABANGO
45	ST. MARTHAS GIRLS
46	ST. PHILIPS WAYAGA
47	ST. STEPHEN ANGIRO
48	WACHARA
49	WIKOTENG'
50	WIOBIERO MI[illegible]

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOG

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P. O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: *NCST/5/002/R/547/5*

Date:
26th June 2009

Gilbert Michael Obuoda
University Of Nairobi
P.O BOX 30197
Nairobi

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on, ***The Role of Computer Technology on Principals Administration in Secondary schools in Homa-Bay District***

I am pleased to inform you that you have been authorized to carry out research in Homa-Bay District for a period ending 31st December 2009

You are advised to report to the District Commissioner and The District Education Officer Homa Bay District before embarking on your research project.

On completion of your research, you are expected to submit two ccpies of your research report/thesis to this office.

for **PROF. S. A. ABDULRAZAK PhD, MBS**
SECRETARY

Copy to

The District Commissioner
Homa-Bay District

The District Education Officer
Homa-Bay District

MINISTRY OF EDUCATION

Telegrams: "SCHOOLING", Homa Bay
Telephone: Homa Bay 22313
When replying please quote

DISTRICT EDUCATION OFFICE
HOMA BAY DISTRICT
P.O. BOX 78
HOMA BAY

Ref:HB/MISC/8/VOL.III/99

9th July,2009.

To all Principals,
HOMA BAY DISTRICT.

RE: GILBERT MICHAEL OBUODA. ID NO 67 70680

We are in receipt of a letter from the National Council for Science and Technology authorizing the above mentioned person who is a student at the University of Nairobi to carry out research on the Role of Computer Technology on Principals Administration in Secondary schools in Homa Bay District.

The research period is from 1st July – 31st December, 2009.

Kindly accord him the necessary assistance.

KIMATUNI COSMAS.
For: DISTRICT EDUCATION OFFICER,
HOMA BAY.

cc.

-The Provincial Director of Education,
P.O. Box 575,
KISUMU.

- The District Commissioner,
P.O. Box 1.
HOMA BAY